AMENDMENTS TO THE CLAIMS

Please cancel claims 3, 8, 12, 17 and 18 without prejudice. Please add new claims 21-25.

1. (CURRENTLY AMENDED) An apparatus comprising:

a memory; ~~and~~

a first circuit configured to (i) copy a plurality of first reference samples of a first reference image from said memory, said first reference samples being proximate a first offset from a first corner of said first reference image and ~~search for~~ (ii) generate a first motion vector ~~for~~ corresponding to a first current block of a current image by searching among ~~a plurality of~~ said first reference samples; and ~~, (ii) copy a plurality of second reference samples from said memory and (iii) search for a second motion vector for a second current block among said second reference samples copied from said memory and at least a portion of said first reference samples~~

a second circuit configured to (i) copy a plurality of second reference samples of said first reference image from said memory, said second reference samples being proximate a second offset from said first corner of said first reference image, said second offset being different than said first offset and (ii)

generate a second motion vector corresponding to said first current block by searching among said second reference samples.

2. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein said first circuit comprises a search memory (i) having a read port and a write port, said write port being separate from said read port ~~for storing~~ and (ii) configured to store said first reference samples ~~and said second reference samples~~ copied from said memory.

3. (CANCELED)

4. (CURRENTLY AMENDED) The apparatus according to claim 2, wherein said first circuit further comprises a read control circuit configured to generate a first read address to read from said memory.

5. (ORIGINAL) The apparatus according to claim 4, wherein said first circuit further comprises a write control circuit configured to generate a write address to write to said search memory.

6. (CURRENTLY AMENDED) The apparatus according to claim 5, wherein said first circuit further comprises an internal read

control circuit configured to generate a second read address to read from said search memory.

7. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein said first circuit is further configured to (i) copy ~~said second~~ a plurality of third reference samples of said first reference image from said memory and (ii) generate a third motion vector corresponding to a second current block of said current image by searching among said third reference samples and at least a portion of said first reference samples ~~as a column of reference blocks~~.

8. (CANCELED)

9. (CURRENTLY AMENDED) The apparatus according to claim 7, wherein said ~~column is~~ said third reference samples are spatially adjoining said first reference samples.

10. (CURRENTLY AMENDED) The apparatus according to claim 1, further comprising:

a ~~second~~ third circuit configured to (i) copy a plurality of third reference samples of a second reference image from said memory, said third reference samples having a third offset from a second corner of a second reference image ~~in an area different than~~

~~said first reference samples~~ and (ii) ~~search for~~ generate a third motion vector ~~for~~ corresponding to said first current block by searching among said third reference samples ~~copied from said memory; and~~

~~a memory sub-system configured to control communication between (i) said memory and said first circuit and (ii) said memory and said second circuit~~.

11. (CURRENTLY AMENDED) A method for motion estimation, comprising the steps of:

(A) copying a plurality of first reference samples of a first reference image from a memory to a first circuit, said first reference samples having a first offset from a first corner of said first reference image;

(B) ~~(A) searching for~~ generating a first motion vector ~~for~~ corresponding to a first current block of a current image by searching among ~~a plurality of~~ said first reference samples using said first circuit;

(C) ~~(B)~~ copying a plurality of second reference samples of said first reference image from ~~a~~ said memory to a second circuit, said second reference samples being proximate a second offset from said first corner of said first reference image, said second offset being different than said first offset; and

(D) ~~(C) searching for~~ generating a second motion vector ~~for a second~~ corresponding to said first current block by searching among said second reference samples using said second circuit ~~copied from said memory and at least a portion of said first reference samples~~.

12. (CANCELED)

13. (CURRENTLY AMENDED) The method according to claim ~~11~~ 19, wherein said second current block adjoins said first current block in ~~a~~ said current image ~~frame~~.

14. (CURRENTLY AMENDED) The method according to claim 13, wherein said ~~second~~ third references samples adjoin said first reference samples in ~~a~~ said first reference image ~~frame~~.

15. (CURRENTLY AMENDED) The method according to claim ~~11~~ 19, wherein the steps of (A) ~~searching for~~ generating said first motion vector and (B) copying said ~~second~~ third reference samples are performed substantially simultaneously.

16. (CURRENTLY AMENDED) The method according to claim ~~11~~ 19, further comprising the step of:

overwriting ~~a portion~~ some of said first reference samples with a plurality of ~~third~~ fourth reference samples.

17. (CANCELED)

18. (CANCELED)

19. (CURRENTLY AMENDED) The method according to claim ~~18~~ 11, further comprising the ~~step~~ steps of:

copying a plurality of third reference samples from said memory to said first circuit; and

~~searching for~~ generating a third motion vector ~~for said first~~ corresponding to a second current block of said current image by searching among said third reference samples and at least a portion of said first reference samples.

20. (CURRENTLY AMENDED) An apparatus comprising:

means for storing a first reference image;

means for (i) copying a plurality of first reference samples of said first reference image from said means for storing, said first reference samples being proximate a first offset from a first corner of said first reference image and ~~searching for~~ (ii) generate a first motion vector ~~for~~ corresponding to a first current

block of a current image by searching among ~~a plurality of~~ said first reference samples; and

~~means for copying a plurality of second reference samples from a memory; and~~

means for (i) copying a plurality of second reference samples of said first reference image from said means for storing, said second reference samples being proximate a second offset from said first corner of said first reference image, said second offset being different than said first offset and ~~searching for~~ (ii) generating a second motion vector ~~for a second~~ corresponding to said first current block by searching among said second reference samples ~~copied from said memory and at least a portion of said first reference samples~~.

21. (NEW) The apparatus according to claim 1, wherein (i) said first offset comprises a small offset generated from a still region of said current image and (ii) said second offset comprises a large offset generated from a moving region of said current image.

22. (NEW) The apparatus according to claim 1, further comprising a memory sub-system configured to control communication between (i) said memory and said first circuit and (ii) said memory and said second circuit.

23. (NEW) The method according to claim 11, further comprising the steps of:

copying a plurality of third reference samples of a second reference image from said memory to a third circuit, said third reference samples having a third offset from a second corner of a second reference; and

generating a third motion vector corresponding to said first current block by searching among said third reference samples using said third circuit.

24. (NEW) The method according to claim 23, wherein (i) said first motion vector comprises a forward prediction and (ii) said third motion vector comprises a backwards prediction.

25. (NEW) The method according to claim 11, wherein (i) said first offset comprises a zero offset generated from a still region of said current image and (ii) said second offset comprises a non-zero offset generated from a moving region of said current image.